

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently amended) A method for creating a mask-programmable
2 module from standard cells, comprising:
3 specifying characteristics of an end design;
4 selecting a plurality of standard cells from a standard cell library based on
5 the characteristics of the end design;
6 combining the plurality of standard cells into a mask-programmable
7 module, wherein instances of the mask-programmable module are repeated to
8 form a mask-programmable fabric; and
9 designing a mask-programmable interconnect to match the mask-
10 programmable module, whereby connections within the mask-programmable
11 module and between mask-programmable modules ~~are can be~~ generated by
12 programming the mask-programmable interconnect.

1 2. (Currently amended) The method of claim 1, wherein the mask-
2 programmable modules and the mask-programmable interconnect that make up
3 the mask-programmable fabric ~~are can be~~ programmed by changing inter-metal
4 via layers and/or metal layers.

1 3. (Original) The method of claim 1, wherein combining the plurality of
2 standard cells into a mask-programmable module additionally involves defining
3 connections between standards cells within the mask-programmable module.

1 4. (Currently amended) The method of claim 1, further comprising
2 | generating views for the mask-programmable module, wherein the views can
3 include:
4 a physical view that specifies connectivity within the mask-programmable
5 module, including connectively with pins in the mask-programmable module;
6 a logical view that specifies logical relationships between signals in the
7 mask-programmable module; and
8 a timing view that specifies timing relationships within the mask-
9 programmable module.

1 5. (Original) The method of claim 4, wherein generating the views
2 involves using pre-existing information about the plurality of the standard cells
3 from the standard cell library to generate the views for the mask-programmable
4 module.

1 6. (Original) The method of claim 1, further comprising:
2 receiving a high-level design for an integrated circuit; and
3 performing a synthesis operation on the high-level design to generate a
4 netlist for the high-level design that contains references to mask-programmable
5 modules.

1 7. (Original) The method of claim 6, further comprising performing a
2 placement operation and a routing operation on the netlist to produce a layout for
3 the integrated circuit.

1 8. (Original) The method of claim 7, wherein performing the routing
2 operation involves programming the mask-programmable modules and mask-
3 programmable interconnect.

1 9. (Currently amended) A computer-readable storage medium storing
2 instructions that when executed by a computer cause the computer to perform a
3 method for creating a mask-programmable module from standard cells, the
4 method comprising:
5 specifying characteristics of an end design;
6 selecting a plurality of standard cells from a standard cell library based on
7 the characteristics of the end design;
8 combining the plurality of standard cells into a mask-programmable
9 module, wherein instances of the mask-programmable module are repeated to
10 form a mask-programmable fabric; and
11 designing a mask-programmable interconnect to match the mask-
12 programmable module, whereby connections within the mask-programmable
13 module and between mask-programmable modules are ~~can be~~ generated by
14 programming the mask-programmable interconnect.

1 10. (Currently amended) The computer-readable storage medium of claim
2 9, wherein the mask-programmable modules and the mask-programmable
3 interconnect that make up the mask-programmable fabric are ~~can be~~ programmed
4 by changing inter-metal via layers and/or metal layers.

1 11. (Original) The computer-readable storage medium of claim 9, wherein
2 combining the plurality of standard cells into a mask-programmable module
3 additionally involves defining connections between standards cells within the
4 mask-programmable module.

1 12. (Currently amended) The computer-readable storage medium of claim
2 9, wherein the method further comprises ~~comprising~~ generating views for the
3 mask-programmable module, wherein the views ~~can~~ include:

4 a physical view that specifies connectivity within the mask-programmable
5 module, including connectively with pins in the mask-programmable module;
6 a logical view that specifies logical relationships between signals in the
7 mask-programmable module; and
8 a timing view that specifies timing relationships within the mask-
9 programmable module.

1 13. (Original) The computer-readable storage medium of claim 12,
2 wherein generating the views involves using pre-existing information about the
3 plurality of the standard cells from the standard cell library to generate the views
4 for the mask-programmable module.

1 14. (Currently amended) The computer-readable storage medium of claim
2 | 9, wherein the method further comprises ~~comprising~~:
3 receiving a high-level design for an integrated circuit; and
4 performing a synthesis operation on the high-level design to generate a
5 netlist for the high-level design that contains references to mask-programmable
6 modules.

1 15. (Currently amended) The computer-readable storage medium of claim
2 | 14, wherein the method further comprises ~~comprising~~ performing a placement
3 operation and a routing operation on the netlist to produce a layout for the
4 integrated circuit.

1 16. (Original) The computer-readable storage medium of claim 15,
2 wherein performing the routing operation involves programming the mask-
3 programmable modules and mask-programmable interconnect.

1 17. (Currently amended) An apparatus for creating a mask-programmable
2 module from standard cells, comprising:
3 a specifying mechanism configured to specify characteristics of an end
4 design;
5 a selecting mechanism configured to select a plurality of standard cells
6 from a standard cell library based on the characteristics of the end design;
7 a combining mechanism configured to combine the plurality of standard
8 cells into a mask-programmable module, wherein instances of the mask-
9 programmable module are repeated to form a mask-programmable fabric; and
10 a designing mechanism configured to design a mask-programmable
11 interconnect to match the mask-programmable module, whereby connections
12 within the mask-programmable module and between mask-programmable
13 | modules ~~are can be~~ generated by programming the mask-programmable
14 interconnect

1 18. (Currently amended) The apparatus of claim 17, wherein functions of
2 the mask-programmable modules and the mask-programmable interconnect that
3 | make up the mask-programmable fabric ~~are can be~~ programmed by changing
4 inter-metal via layers and/or metal layers.

1 19. (Original) The apparatus of claim 17, wherein combining the plurality
2 of standard cells into a mask-programmable module additionally involves defining
3 connections between standards cells within the mask-programmable module.

1 20. (Currently amended) The apparatus of claim 17, further comprising a
2 generating mechanism configured to generate views for the mask-programmable
3 | module, wherein the views ~~can~~ include:

4 a physical view that specifies connectivity within the mask-programmable
5 module, including connectivity with pins in the mask-programmable module;
6 a logical view that specifies logical relationships between signals in the
7 mask-programmable module; and
8 a timing view that specifies timing relationships within the mask-
9 programmable module.

1 21. (Original) The apparatus of claim 20, wherein generating the views
2 involves using pre-existing information about the plurality of the standard cells
3 from the standard cell library to generate the views for the mask-programmable
4 module.

1 22. (Original) The apparatus of claim 17, further comprising:
2 a receiving mechanism configured to receive a high-level design for an
3 integrated circuit; and
4 a synthesis mechanism configured to perform a synthesis operation on the
5 high-level design to generate a netlist for the high-level design that contains
6 references to mask-programmable modules.

1 23. (Original) The apparatus of claim 22, further comprising a place-and-
2 route mechanism configured to perform a placement operation and a routing
3 operation on the netlist to produce a layout for the integrated circuit.

1 24. (Original) The apparatus of claim 23, wherein performing the routing
2 operation involves programming the mask-programmable modules and mask-
3 programmable interconnect.